REMARKS

This is responsive to the Office Action mailed on May 22, 2006. The Office Action rejected claims 1, 3, 4, 8-10, 13, 15, 34, 35, 38-40, 45 and 46, objected to claims 14, 36, and 37 and allowed claims 28, 29, 33 and 41-44. The Application currently includes claims 1, 3, 4, 8-10, 13-15, 28, 29 and 33-46.

The Office Action rejected independent claim 46 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description. The Office Action alleges that independent claim 46 contains subject matter which was not described in the specification in a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the Application was filed, had possession of the claimed invention. The Office Action states that there is no support for the preclusion of a linker molecule as now claimed. The Office Action also alleges that the claimed invention does not appear to be enabled since a linker molecule is necessary for the invention to work as disclosed since the covalent attachment of a crosslinking agent to the tissue requires attachment to some molecule of the tissue.

The Office Action also rejected independent claim 46 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Office Action alleges that the preclusion of a linker molecule in independent claim 46 is confusing and renders the claimed language indefinite in that a molecule on the tissue must link to the crosslinking agent to bond it thereto. The Office Action also alleges that a crosslinking molecule is used as or acts as a linker molecule so the preclusion of it is confusing.

Applicants respectfully disagree that independent claim 46 fails to comply with the written description under 35 U.S.C. § 112, first paragraph, or is indefinite under 35 U.S.C. § 112, second paragraph, for failing to point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants have disclosed linker molecules at p. 18, line 29-p.19, line 18. Similarly, the Application also discloses that the polypeptide growth factor can be attached to the substrate with a crosslinking agent. *See* p. 14, line 3-p. 15, line 6. Utilizing a

crosslinking agent or a linker molecule to attach a polypeptide growth factor to a natural tissue substrate are distinctly different methods apart from each other.

Contrary to the allegation in the Office Action, Applicants did have possession of using either a crosslinking agent, such as glutaraldehyde, or a linker molecule at the time the Application was filed. There is support for the preclusion of a linker molecule as now claimed, in direct contrast to the Office Action. Further, a linker molecule has been disclosed as being a separate method for attaching a polypeptide growth factor to a natural tissue substrate apart from a crosslinking agent, such as glutaraldehyde or an epoxy as disclosed in the specification. Therefore, the rejection under 35 U.S.C. §112, first paragraph is respectfully requested to be withdrawn.

Further, with respect to the rejection under 35 U.S.C. § 112, second paragraph, Applicants respectfully submit that the claim does particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Applicants are allowed to claim negative limitations. *See* MPEP § 2173.05(i). As previously stated, Applicants have disclosed numerous methods for attaching a polypeptide growth factor through a natural tissue substrate. Applicants are thereby allowed to explicitly exclude methods of connecting a polypeptide growth factor to a natural substrate. "If alternative elements are positively recited in the specification, they may be explicitly excluded from the claims." *See in re* Johnson 558 F.2d 1008, 1019, 194 U.S.P.Q. 187, 196 (CCPA 1977) ("[the] specification, having described the whole, necessarily describes the part remaining.") MPEP § 2173.05(i).

Further, Applicants do not understand the allegation that the crosslinking molecule is used as or acts as a linker molecule so the preclusion is confusing. As previously stated, Applicants have disclosed different methods of connecting the polypeptide growth factor to the substrate. One method includes utilizing linker molecules and another method includes utilizing crosslinking agents. The specification delineates between the two and, therefore, there is no confusion as to the scope of the claim in light of the specification.

The Office Action also provisionally rejected claims 1, 8, 10, 13, 15, 34, 35, and 38-40 under the judicially created doctrine of obviousness-type double patenting as being

unpatentable over claims 1, 2, 9, 14, and 21 of copending Application No. 09/014,087. Applicants submit that upon allowance of both the present Application and Application No. 09/014,087, Applicants will file a terminal disclaimer.

The Office Action also rejected independent claim 1 as being anticipated by U.S. Pat. No. 5,308,641 (Cahalan patent). The Office Action alleges that the Cahalan patent anticipates independent claim 1 because the Cahalan patent allegedly discloses natural tissue as claimed and that the crosslinking agent as claimed are the combination of the crosslinking agent of dialdehydes and the polyalkylimine of Cahalan. The Office Action alleges that the molecules are joined to form a crosslinking agent that attaches the polypeptide growth factor to the substrate. The Office Action alleges that Cahalan discloses that one purpose of the surface treatment is to promote the attachment and growth of a normal cell layer. The Office Action concludes that the Cahalan patent discloses a stimulation of "the association of viable cells with the substrate" as claimed.

Applicants respectfully disagree that the Cahalan patent anticipates independent claim 1. Applicants submit that the Office action has taken an impermissibly broad interpretation of the disclosure of the Cahalan patent in alleging that polyalkylimine is a crosslinking agent.

Referring to the abstract, the Cahalan patent states as follows: "An improved spacer material for improving the biocompatibility of a biomaterial and a method for making it in which a polyalkylimine is covalently attached to an animated substrate and combined with a crosslinking agent which is at least difunctional in aldehyde groups." The Cahalan patent defines what is considered as a crosslinking agent at col. 4, ll. 58-62. "The crosslinking agent employed in the present invention can be any crosslinking agent which is at least difunctional in aldehyde groups. For example, glutaraldehyde, glyoxal, malonaldehyde, succinaldehyde, adipaldehyde, and dialdehyde starch could be used." There is no disclosure that polyalkylimine is a crosslinking agent.

It does not make sense to allege that polyalkylimine is a crosslinking agent when polyalkylimine is specifically disclosed as a spacer separate and apart from the crosslinking agent

which is defined as being at least difunction in aldehyde groups. The Cahalan patent clearly discloses a crosslinking agent is at least difunctional in aldehyde groups. The Cahalan patent clearly discloses a crosslinking agent that is at least functional in aldehyde groups. Polyalkylimine does not have aldehyde groups. Therefore, it is not understood how the Office Action could allege that polyalkylimine is a part of a crosslinking agent.

To further illustrate the point, referring to claim 1, at col. 8, ll. 25-34, Cahalan did not consider polyalkylimine to be a crosslinking agent in its claims when it distinctly claims a crosslinking agent separate from polyalkylimine. The same holds true for claim 4 and claim 15.

For the foregoing reasons, claim 1 is in allowable form. Reconsideration and allowance of claim 1 are respectfully requested.

Claims 3, 4, 8-10, and 13-15 depend from independent claim 1 and were either objected to or rejected as either being anticipated or obvious. While Applicants do not acquiesce to the rejection of any of the dependent claims, the rejections are moot in light of the fact that independent claim 1 is in allowable form. Reconsideration and allowance of claims 3, 4, 8-10, and 13-15 are respectfully requested.

The Office Action also rejected independent claim 45 as being anticipated by the Cahalan patent for the reasons cited with respect to independent claim 1. Applicants respectfully disagree that the Cahalan patent anticipates independent claim 45 because claim 45 includes crosslinking agents comprising at least two difunctional aldehyde groups which covalently bond a polypeptide growth factor to a biological matrix. For the reasons stated with respect to independent claim 1, the Cahalan patent cannot be read where polyalkylimine can be considered part of the crosslinking agent.

Therefore, the Cahalan patent does not disclose each and every element of independent claim 1 or independent claim 45, and therefore, does not anticipate independent claim 45. Reconsideration and allowance of independent claim 45 are respectfully requested.

The Office Action also rejected independent claim 46 for the reasons cited with respect to independent claim 1. Claim 46 claims a crosslinking agent that covalently bonds a polypeptide growth factor to a substrate where the substrate does not include a linker molecule

attached thereto. Claim 46 states that the crosslinking agent comprises at least two aldehyde functional groups that form covalent bonds to link the crosslinking agent directly with the polypeptide growth factor and the substrate.

There is no disclosure of directly linking a polypeptide growth factor to a substrate as claimed in claim 46 in the Cahalan patent. Rather, the Cahalan patent discloses the use of a spacer namely, polyalkylimine, which cannot be considered to be a crosslinking agent as defined in the Cahalan patent for the reasons stated with respect to claim 1. Therefore, claim 46 is not anticipated by the Cahalan patent. Reconsideration and allowance of independent claim 46 are respectfully requested. Utilizing a crosslinking agent or a linker molecule to attach a polypeptide growth factor to a natural tissue substrate are distinctly different methods apart from each other.

CONCLUSION

For the foregoing reasons, the present invention is believed to be in allowance form. Reconsideration and allowance of the claims are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: _____

Peter J. Ims, Reg. No. 48,774
Suite 1400
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312

HAF;PJI:tlr